



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/775,532	02/10/2004	Marko Hahn	Micronas.7262CON	6698
50811 7590 05/02/2007 O'SHEA, GETZ & KOSAKOWSKI, P.C. 1500 MAIN ST. SUITE 912 SPRINGFIELD, MA 01115			EXAMINER CHU, RANDOLPH I	
			ART UNIT 2624	PAPER NUMBER
			MAIL DATE 05/02/2007	DELIVERY MODE PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/775,532	HAHN ET AL.	
	Examiner	Art Unit	
	Randolph Chu	2624	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 10 February 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-11 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-11 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 2/10/2004 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>7/12/2004, 2/24/2005</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Drawings

1. Figure 1 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). Corrected drawings in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.
2. The drawings are objected to because *the unlabeled rectangular boxes shown in the drawings (Fig. 3 – Fig. 7) should be provided with descriptive text labels*. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency.

Art Unit: 2624

Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claim 1, 6, 7, 10 and 11 is rejected under 35 USC 103(a) as being unpatentable over Dorricott et al. (US Patent 5,526,053) in view of Keating et al. (US Patent 5,446,497)

Dorricott et al. teaches selection from the first input image (Fig 9, input filed f0) of a first pixel (Fig 9, ref no. 500 at t = 0) to which a first video information value (Fig 9, information for ref no. 500 at t = 0) is assigned, using a first motion vector (Fig 9, Va), and selection from the second input image (Fig 9, input filed f1) of a second pixel (Fig 9, ref no. 500 at t = 1) to which a second video information value (Fig 9, information for ref no. 500 at t = 1) is assigned, using the first motion vector (Fig 9, Va); selection from the first input image (Fig 9, input filed f0) of a third pixel (Fig 9, ref no. 510 at t = 0) to which

Art Unit: 2624

a third video information value (Fig 9, information for ref no. 510 at $t = 0$) is assigned, using a second motion vector (Fig 9, V_b) ; and selection from the second input image (Fig 9, input field f_1) of a fourth pixel (Fig 9, ref no. 510 at $t = 1$) to which a fourth video information value (Fig 9, information for ref no. 510 at $t = 1$) is assigned, using the second motion vector (Fig 9, V_b) (Fig 9; col. 9 lines 18-29); determination of an interval specified by the first video information value-and the second video information value or an interval specified by the third video information value and the fourth video information value (col. 1 line 65 – col. 2 line 2). An interval is automatically determined if time at beginning and end of vector.

Dorricott et al. does not explicitly teaches mixing of the video information values by multiplying the first video information value by a first weighting factor , the second video information value by a second weighting factor , the third video information value by a third weighting factor, and the fourth video information value by a fourth weighting factor and adding the weighted video information values so obtained in order to obtain a video information value of the pixel of the intermediate image, the weighting factors being chosen such that this video information value lies within the interval determined.

Keating et al. teaches mixing of the video information values with the weighted video information (interpolation coefficient) values so obtained in order to obtain a video information value of the pixel of the intermediate image (output field), the weighting factors being chosen such that this video information value lies within the interval determined (The output pixel is obtained by combining the values of the pixels located in the progressive scan frame.) (col. 15 lines 36 – 66).

At the time of the invention it would have been obvious to a person of ordinary skill in the art to mix video information with weighting factor to predict interpolated pixel in the method of Dorricott et al.

The suggestion/motivation for doing so would have been that to locate the appropriate pixels in the pair of frames are combined to produce optimized output pixel and both references are for the use and processing of motion vectors.

Therefore, it would have been obvious to combine Keating et al. with Dorricott et al. to obtain the invention as specified in claim 1.

5. With regard claim 6, Dorricott et al. and Keating et al. teach first a first intermediate value (Dorricott et al., Fig 9, Va) is generated by mixing the first video information value and the second video information value and a second intermediate value (Dorricott et al., Fig 9, Vb) is generated by mixing the third video information value and the fourth video information value, and the intermediate signals are weighted using a weighting factor (Keating et al., interpolation coefficient, col. 15 lines 36 – 66). in order to obtain the video information value of the pixel (Dorricott et al., Fig 9, ref no. 110) of the intermediate image (Dorricott et al., col. 9 lines 18-29).

6. With regard claim 11, Keating et al. teaches first video information value and the second video information value are equally weighted in the generation of the first intermediate value and wherein the third video information value and the fourth video

Art Unit: 2624

information value are equally weighted in the generation of the second intermediate value (interpolation ratio of $\frac{1}{2}:\frac{1}{2}$ col. 16 lines 7-59).

7. With regard claim 10, Dorricott et al. teaches first interpolated video information value is determined using the first interval formed by the first video information value and the second video information value and a second interpolated video information value is determined using the second interval formed by the third video information value and the fourth video information value, and wherein the interpolated video information value of a pixel of the intermediate image is formed by mixing the first interpolated video information value and the second interpolated video information value (col. 9 lines 18-29).

8. With regard claim 11, Keating et al. teaches first and second interpolated video information values are equally weighted in the formation of the interpolated video information value (col. 16 lines 7-59).

Double Patenting

9. A rejection based on double patenting of the "same invention" type finds its support in the language of 35 U.S.C. 101 which states that "whoever invents or discovers any new and useful process ... may obtain a patent therefor ..." (Emphasis added). Thus, the term "same invention," in this context, means an invention drawn to identical subject matter. See *Miller v. Eagle Mfg. Co.*, 151 U.S. 186 (1894); *In re Ockert*, 245 F.2d 467, 114 USPQ 330 (CCPA 1957); and *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970).

Art Unit: 2624

A statutory type (35 U.S.C. 101) double patenting rejection can be overcome by canceling or amending the conflicting claims so they are no longer coextensive in scope. The filing of a terminal disclaimer cannot overcome a double patenting rejection based upon 35 U.S.C. 101.

10. Claims 1-11 are provisionally rejected under 35 U.S.C. 101 as claiming the same invention as that of claims 1-11 of copending Application No. 10/775,532. This is a provisional double patenting rejection since the conflicting claims have not in fact been patented.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Randolph Chu whose telephone number is 571-270-1145. The examiner can normally be reached on Monday to Thursday from 7:30 am - 5 pm.

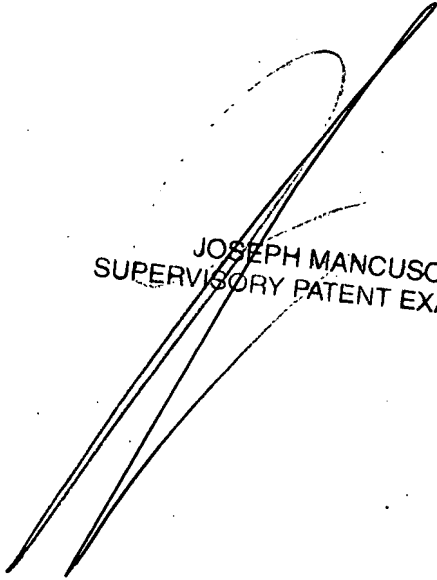
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Joseph Mancuso can be reached on 571-272-7695/7695. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you

Art Unit: 2624

have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

RIC/



JOSEPH MANCUSO
SUPERVISORY PATENT EXAMINER